

**IN THE SPECIFICATION**

Please amend the paragraph beginning on page 1, line 5 as follows:

**CROSS-REFERENCE TO RELATED PATENT APPLICATIONS**

This patent application is related to Stessman, U.S. Patent No. 6,584,355 entitled "SYSTEM AND METHOD FOR MEASURING BATTERY CURRENT," which is assigned to Cardiac Pacemakers, Inc., and which is incorporated by reference herein in its entirety, including its disclosure of tracking charge depletion from a battery.

This patent application is also related to Stessman et al. U.S. Patent Application No. 10/395,983, filed on March 25, 2003, now issued as U.S. Patent No. 6,885,894, entitled "SYSTEM AND METHOD FOR MEASURING BATTERY CURRENT," which is assigned to Cardiac Pacemakers, Inc., and which is incorporated by reference herein in its entirety.

This patent application is also related to James et al. U.S. Patent Application No. 10/618,095, filed on July 11 2003, entitled "INDICATOR OF REMAINING ENERGY IN STORAGE CELL OF IMPLANTABLE MEDICAL DEVICE," which is assigned to Cardiac Pacemakers, Inc., and which is incorporated by reference herein in its entirety.

This patent application is also related to Loch U.S. Patent Application No. 10/692,315, filed October 23, 2003, now issued as U.S. Patent No. 6,940,255, entitled "BATTERY CHARGE INDICATOR SUCH AS FOR AN IMPLANTABLE MEDICAL DEVICE," which is assigned to Cardiac Pacemakers, Inc., and which is incorporated by reference herein in its entirety.

Please amend the paragraph beginning on page 4, line 26 as follows:

In the example of FIG. 1, the device 102 includes a battery terminal voltage measurement circuit 112, a battery charge measurement circuit 114, a controller circuit 116, a communication circuit 118, and a temperature sensor circuit 120. In this example, the battery terminal voltage measurement circuit 112 is connected in parallel with the battery 108, i.e., across the battery terminals of the battery 108. The battery charge measurement circuit 114 is connected in series with the battery 108, i.e., between the battery 108 and the load circuits 110. The controller 116

is coupled to the battery terminal voltage measurement circuit **112**, the battery charge measurement circuit **114**, and the temperature sensor circuit **120** to respectively receive a battery terminal voltage measurement, a battery current measurement, and a device **102** temperature measurement. In one example, the controller **116** further includes averaging circuit **126** and memory location locations **128-134**. In one example, the battery charge measurement circuit **114** is a battery charge and current measurement circuit, such as described in the above-incorporated Stessman U.S. Patent No. 6,584,355. In the example of FIG. **1**, the external user interface **104** includes a communication circuit **122** and a display **124**.

Please amend the paragraph beginning on page 7, line 1 as follows:

Moreover, in the method illustrated in FIG. **2**, storage of the battery at a cold temperature (e.g., if the implantable device **102** is left in an automobile trunk in a cold climate) may cause the battery terminal voltage to drop ~~drop~~. However, such temporary temperature-related drops in battery terminal voltage are not indicative of the state of the battery's charge. The battery terminal voltage will recover when the device **102** is implanted into a patient and the device **102** is warmed to the patient's body temperature. Accordingly, in one example, at **216**, the device **102** includes a temperature sensor **120** to measure the temperature of the device. At **218**, ~~The the~~ temperature is compared to a temperature threshold (e.g., about 10 degrees Celsius, or some other suitable temperature threshold). At **220**, ~~If if~~ the device **102** temperature falls below the temperature threshold, then the battery voltage measurement is discounted (e.g., inhibited or ignored), at least for the purposes of making a comparison to a voltage threshold for asserting ERI.

Please amend the paragraph beginning on page 7, line 14 as follows:

FIG. **3** is a flow chart illustrating generally a fault current detection process. In one example, the fault current detection process runs concurrent with **202** or one of the other acts illustrated in FIG. **2**. At **300**, a shipping state of the device **102** is determined, such as by reading a memory storage location (e.g., memory storage location **130**) that includes such information.

The shipping state of the device **102** indicates whether the device is in a shipping mode, which is the state of the device **102** when it leaves the manufacturing facility. After the device **102** has been implanted in a patient, it is programmed out of the shipping mode by the user. At **302**, a fault current detection threshold is set, such as by using the shipping state information. In one illustrative example, if the shipping state indicates that the device **102** is in a shipping mode, then the fault current detection threshold is set to 24 microamperes (or other suitable value for detecting an abnormally elevated current in the shipping mode). In this example, if the shipping state indicates that the device **102** has been implanted in a patient, then the fault current detection threshold is set to 200 microamperes (or other suitable value for detecting an abnormally elevated current in the implanted mode).

Please amend the paragraph beginning on page 8, line 1 as follows:

At **304**, a battery current is monitored, such as by using the battery charge measurement circuit **114**, as discussed above. At **306**, the monitored battery current is averaged, such as by the averaging circuit **126** of controller **116**, over a suitable averaging time period (for example, about 1 day, such as about 21 hours) for performing the fault current detection. This averaging time period may be different than the averaging time period discussed above for establishing the first voltage threshold using the monitored battery current. At **308**, the average current is compared (e.g., once per averaging period) to the fault current detection threshold that was set at **302**. At **310**, if the average current exceeds the fault current detection threshold, then a fault current detection condition is declared at **312**, and the assertion of the fault current detection condition is communicated to the user at **314**. Otherwise, if at **310** the average current does not exceed the fault current detection threshold, then process flow returns to **300**.